

MINOR SOURCE OPERATING PERMIT OFFICE OF AIR MANAGEMENT

**Precision Processes Division
31350 Fulmer Street
Walkerton, Indiana 46574**

(herein known as the Permittee) is hereby authorized to construct and operate subject to the conditions contained herein, the emission units described in Section A (Source Summary) of this permit.

This permit is issued to the above mentioned company under the provisions of 326 IAC 2-1.1, 326 IAC 2-6.1 and 40 CFR 52.780, with conditions listed on the attached pages.

Operation Permit No.: MSOP 141-10838-00141	
Issued by: Paul Dubenetzky, Branch Chief Office of Air Management	Issuance Date:

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SECTION A

SOURCE SUMMARY

This permit is based on information requested by the Indiana Department of Environmental Management (IDEM), Office of Air Management (OAM). The information describing the source contained in conditions A.1 through A.3 is descriptive information and does not constitute enforceable conditions. However, the Permittee should be aware that a physical change or a change in the method of operation that may render this descriptive information obsolete or inaccurate may trigger requirements for the Permittee to obtain additional permits or seek modification of this permit pursuant to 326 IAC 2, or change other applicable requirements presented in the permit application.

A.1 General Information [326 IAC 2-5.1-3(c)] [326 IAC 2-6.1-4(a)]

The Permittee owns and operates for finishing and cleaning operation of ferrous and non-ferrous castings.

Authorized Individual: Jack Hiler
Source Address: 31350 Fulmer Street, Walkerton, Indiana 46574
Mailing Address: 31350 Fulmer Street, Walkerton, Indiana 46574
Phone Number: (219) 362-8531
SIC Code: 3449
County Location: St. Joseph
County Status: Attainment for all criteria pollutants
Source Status: Minor Source Operating Permit

A.2 Emissions units and Pollution Control Equipment Summary

This stationary source is approved to construct and operate the following emissions units and pollution control devices;

1. one (1) natural gas fired space heater, maximum heat input capacity of 0.4 MMBtu per hour;
2. fourteen (14) grinders (# 1 to 14), maximum capacity of 285 pounds per hour, each, exhausting to a baghouse (Dust 1) with a gas flow rate of 21,600 acfm at 70 ° F, exhausting inside the plant;
3. two (2) grinders (# 15 and # 16), maximum capacity of 285 pounds per hour, each, exhausting to a baghouse (Dust 3) with a gas flow rate of 3,000 acfm at 70 ° F, exhausting inside the plant;
4. two (2) grinders (# 17 and # 18), maximum capacity of 285 pounds per hour, each, exhausting to a baghouse (Dust 4) with a gas flow rate of 3,000 acfm at 70 ° F, exhausting inside the plant;
5. two (2) grinders (# 20 and # 21), maximum capacity of 285 pounds per hour, each, exhausting to a baghouse (Dust 6) with a gas flow rate of 3,000 acfm at 70 ° F, exhausting inside the plant;
6. one (1) grinder (# 19), maximum capacity of 285 pounds per hour, exhausting to a baghouse (Dust 5) with a maximum design flow rate of 1,200 acfm, exhausting inside the plant;
7. one (1) shotblast machine (Blaster # 1), maximum capacity of 3.0 tons per hour,

- exhausting to a baghouse (Dust 2) with a gas flow rate of 2,600 acfm at 70 ° F, exhausting inside the plant;
8. one (1) grinder (# 22), maximum capacity of 285 pounds per hour, each, exhausting to a baghouse (Dust 9) with a gas flow rate of 2,600 acfm at 70 ° F, exhausting inside the plant;
 9. one (1) grinder (# 23), maximum capacity of 285 pounds per hour, each, exhausting to a baghouse (Dust 10) with a gas flow rate of 2,600 acfm at 70 ° F, exhausting inside the plant;
 10. four (4) grinders (# 24, #25, #26, # 27), maximum capacity of 285 pounds per hour, each, exhausting to a baghouse (Dust 1) with a gas flow rate of 21,600 acfm at 70 ° F, exhausting inside the plant;
 11. two (2) shot blasters, identified as Blaster 2 and Blaster 3 with maximum capacity of 3.0 tons per hour, each, exhausting to baghouses identified as Dust 11 and 12, respectively; and
 12. two (2) baghouses (Dust 11 and 12) with a maximum design flow rate of 2,600 acfm , each, at 70° F, exhausting inside the plant.

SECTION B GENERAL CONSTRUCTION CONDITIONS

THIS SECTION OF THE PERMIT IS BEING ISSUED UNDER THE PROVISIONS OF 326 IAC 2-1.1 AND 40 CFR 52.780, WITH CONDITIONS LISTED BELOW.

B.1 Permit No Defense [IC 13]

This permit to construct does not relieve the Permittee of the responsibility to comply with the provisions of the Indiana Environmental Management Law (IC 13-11 through 13-20; 13-22 through 13-25; and 13-30), the Air Pollution Control Law (IC 13-17) and the rules promulgated thereunder, as well as other applicable local, state, and federal requirements.

B.2 Definitions

Terms in this permit shall have the definition assigned to such terms in the referenced regulation. In the absence of definitions in the referenced regulation, any applicable definitions found in IC 13-11, 326 IAC 1-2, and 326 IAC 2-1.1-1 shall prevail.

B.3 Effective Date of the Permit [IC13-15-5-3]

Pursuant to IC 13-15-5-3, this permit becomes effective upon its issuance.

B.4 Revocation of Permits [326 IAC 2-1.1-9(5)]

Pursuant to 326 IAC 2-1.1-9(5)(Revocation of Permits), the Commissioner may revoke this permit if construction is not commenced within eighteen (18) months after receipt of this approval or if construction is suspended for a continuous period of one (1) year or more.

B.5 Modification to Permit [326 IAC 2]

Notwithstanding Condition B.7, all requirements and conditions of this construction permit shall remain in effect unless modified in a manner consistent with procedures established for modifications of construction permits pursuant to 326 IAC 2 (Permit Review Rules).

B.6 Minor Source Operating Permit [326 IAC 2-6.1]

This document shall also become a minor source operating permit pursuant to 326 IAC 2-6.1 when, prior to start of operation, the following requirements are met:

- (a) The attached affidavit of construction shall be submitted to the Office of Air Management (OAM), Permit Administration & Development Section, verifying that the emissions units were constructed as proposed in the application. The emissions units covered in the New Source Construction Permit may begin operating on the date the affidavit of construction is postmarked or hand delivered to IDEM.
- (b) If construction is completed in phases; i.e., the entire construction is not done continuously, a separate affidavit must be submitted for each phase of construction. Any permit conditions associated with operation start up dates such as stack testing for New Source Performance Standards (NSPS) shall be applicable to each individual phase.
- (c) The Permittee shall receive an Operation Permit Validation Letter from the Chief of the Permit Administration & Development Section and attach it to this document.
- (d) The operation permit will be subject to annual operating permit fees pursuant to 326 IAC 2-1.1-7(Fees).

- (e) Pursuant to 326 IAC 2-6.1-7, the Permittee shall apply for an operation permit renewal at least ninety (90) days prior to the expiration date established in the validation letter. If IDEM, OAM, upon receiving a timely and complete permit application, fails to issue or deny the permit renewal prior to the expiration date of this permit, this existing permit shall not expire and all terms and conditions shall continue in effect until the renewal permit has been issued or denied. The operation permit issued shall contain as a minimum the conditions in Section C and Section D of this permit.

B.7 Phase Construction Time Frame

That pursuant to 326 IAC 2-1.1-9(5)(Revocation of Permits), the IDEM may revoke this permit to construct if the:

- (a) Construction of shot blasters and the baghouses has not begun within eighteen (18) months from the effective date of this permit or if during the construction of shot blasters and the baghouse, work is suspended for a continuous period of one (1) year or more.

The OAM may extend such time upon satisfactory showing that an extension, formally requested by the Permittee is justified.

SECTION C SOURCE OPERATION CONDITIONS

Entire Source

C.1 PSD Minor Source Status [326 IAC 2-2] [40 CFR 52.21]

- (a) The total source potential to emit of particulate matter less than 10 microns is less than 250 tons per year. Therefore the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration) and 40 CFR 52.21 will not apply.

C.3 Permit Revision [326 IAC 2-5.1-3(e)(3)] [326 IAC 2-6.1-6]

- (a) The Permittee must comply with the requirements of [326 IAC 2-6.1-6] whenever the Permittee seeks to amend or modify this permit.
- (b) Any application requesting an amendment or modification of this permit shall be submitted to:

Indiana Department of Environmental Management
Permits Branch, Office of Air Management
100 North Senate Avenue, P.O. Box 6015
Indianapolis, Indiana 46206-6015

Any such application should be certified by the "authorized individual" as defined by 326 IAC 2-1.1-1.

- (c) The Permittee shall notify the OAM within thirty (30) calendar days of implementing a notice-only change. [326 IAC 2-6.1-6(d)]

C.4 Inspection and Entry [326 IAC 2-5.1-3(e)(4)(B)] [326 IAC 2-6.1-5(a)(4)]

Upon presentation of proper identification cards, credentials, and other documents as may be required by law, the Permittee shall allow IDEM, OAM, U.S. EPA, or an authorized representative to perform the following:

- (a) Enter upon the Permittee's premises where a permitted source is located, or emissions related activity is conducted, or where records must be kept under the conditions of this permit;
- (b) Have access to and copy, at reasonable times, any records that must be kept under this title or the conditions of this permit or any operating permit revisions;
- (c) Inspect, at reasonable times, any processes, emissions units (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit or any operating permit revisions;
- (d) Sample or monitor, at reasonable times, substances or parameters for the purpose of assuring compliance with this permit or applicable requirements; and
- (e) Utilize any photographic, recording, testing, monitoring, or other equipment for the purpose of assuring compliance with this permit or applicable requirements.

- (1) The Permittee may assert a claim that, in the opinion of the Permittee, information removed or about to be removed from the source by IDEM, OAM, or an authorized representative, contains information that is confidential under IC 5-14-3-4(a). The claim shall be made in writing before or at the time the information is removed from the source. In the event that a claim of confidentiality is so asserted, neither IDEM, OAM, nor an authorized representative, may disclose the information unless and until IDEM, OAM, makes a determination under 326 IAC 17-1-7 through 326 IAC 17-1-9 that the information is not entitled to confidential treatment and that determination becomes final. [IC 5-14-3-4; IC 13-14-11-3; 326 IAC 17-1-7 through 326 IAC 17-1-9]
- (2) The Permittee, and IDEM, OAM, acknowledge that the federal law applies to claims of confidentiality made by the Permittee with regard to information removed or about to be removed from the source by U.S. EPA. [40 CFR Part 2, Subpart B]

C.5 Transfer of Ownership or Operation [326 IAC 2-6.1-6(d)(3)]
Pursuant to [326 IAC 2-6.1-6(d)(3)] :

- (a) In the event that ownership of this source is changed, the Permittee shall notify IDEM, OAM, Permits Branch, within thirty (30) days of the change.
- (b) The written notification shall be sufficient to transfer the permit to the new owner by an notice-only change pursuant to 326 IAC 2-6.1-6(d)(3).
- (c) IDEM, OAM, shall issue a revised permit.

The notification which shall be submitted by the Permittee does require the certification by the "authorized individual" as defined by 326 IAC 2-1.1-1.

C.6 Permit Revocation [326 IAC 2-1-9]

Pursuant to 326 IAC 2-1-9(a)(Revocation of Permits), this permit to construct and operate may be revoked for any of the following causes:

- (a) Violation of any conditions of this permit.
- (b) Failure to disclose all the relevant facts, or misrepresentation in obtaining this permit.
- (c) Changes in regulatory requirements that mandate either a temporary or permanent reduction of discharge of contaminants. However, the amendment of appropriate sections of this permit shall not require revocation of this permit.
- (d) Noncompliance with orders issued pursuant to 326 IAC 1-5 (Episode Alert Levels) to reduce emissions during an air pollution episode.
- (e) For any cause which establishes in the judgment of IDEM, the fact that continuance of this permit is not consistent with purposes of this article.

C.7 Opacity [326 IAC 5-1]

Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary Exemptions), opacity shall meet the following, unless otherwise stated in this permit:

- (a) Opacity shall not exceed an average of thirty percent (30%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.
- (b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings) as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor in a six (6) hour period.

C.8 Stack Height [326 IAC 1-7]

The Permittee shall comply with the applicable provisions of 326 IAC 1-7 (Stack Height Provisions), for all exhaust stacks through which a potential (before controls) of twenty-five (25) tons per year or more of particulate matter or sulfur dioxide is emitted by using good engineering practices (GEP) pursuant to 326 IAC 1-7-3.

C.9 Fugitive Dust Emissions [326 IAC 6-4]

The Permittee shall not allow fugitive dust to escape beyond the property line or boundaries of the property, right-of-way, or easement on which the source is located, in a manner that would violate 326 IAC 6-4 (Fugitive Dust Emissions). 326 IAC 6-4-2(4) is not federally enforceable.

Testing Requirements

C.10 Performance Testing [326 IAC 3-6]

- (a) All testing shall be performed according to the provisions of 326 IAC 3-6 (Source Sampling Procedures), except as provided elsewhere in this permit, utilizing methods approved by IDEM, OAM.

A test protocol, except as provided elsewhere in this permit, shall be submitted to:

Indiana Department of Environmental Management
Compliance Data Section, Office of Air Management
100 North Senate Avenue, P. O. Box 6015
Indianapolis, Indiana 46206-6015

no later than thirty-five (35) days prior to the intended test date. The Permittee shall submit a notice of the actual test date to the above address so that it is received at least two weeks prior to the test date.

- (b) All test reports must be received by IDEM, OAM within forty-five (45) days after the completion of the testing. An extension may be granted by the Commissioner, if the source submits to IDEM, OAM, a reasonable written explanation within five (5) days prior to the end of the initial forty-five (45) day period.

The documentation submitted by the Permittee does not require certification by the "authorized individual" as defined by 326 IAC 2-1.1-1.

C.11 Compliance Monitoring [326 IAC 2-1.1-11]

Compliance with applicable requirements shall be documented as required by this permit. The Permittee shall be responsible for installing any necessary equipment and initiating any required monitoring related to that equipment, no more than ninety (90) days after receipt of this permit. If due to circumstances beyond its control, this schedule cannot be met, the Permittee may extend the compliance schedule an additional ninety (90) days provided the Permittee notifies:

Indiana Department of Environmental Management
Compliance Branch, Office of Air Management
100 North Senate Avenue, P. O. Box 6015
Indianapolis, Indiana 46206-6015

in writing, prior to the end of the initial ninety (90) day compliance schedule, with full justification of the reasons for the inability to meet this date. The notification which shall be submitted by the Permittee does require the certification by the "authorized individual" as defined by 326 IAC 2-1.1-1.

C.12 Maintenance of Monitoring Equipment [IC 13-14-1-13]

- (a) In the event that a breakdown of the monitoring equipment occurs, a record shall be made of the times and reasons of the breakdown and efforts made to correct the problem. To the extent practicable, supplemental or intermittent monitoring of the parameter should be implemented at intervals no less frequent than required in Section D of this permit until such time as the monitoring equipment is back in operation. In the case of continuous monitoring, supplemental or intermittent monitoring of the parameter should be implemented at intervals no less than one (1) hour until such time as the continuous monitor is back in operation.
- (b) The Permittee shall install, calibrate, quality assure, maintain, and operate all necessary monitors and related equipment. In addition, prompt corrective action shall be initiated whenever indicated.

C.13 Monitoring Methods [326 IAC 3]

Any monitoring or testing performed to meet the applicable requirements of this permit shall be performed according to the provisions of 326 IAC 3, 40 CFR 60, Appendix A, or other approved methods as specified in this permit.

C.14 Compliance Monitoring Plan - Failure to Take Response Steps [326 IAC 1-6] ([326 IAC 2-2-4] also use if PSD)

- (a) The Permittee is required to implement a compliance monitoring plan to ensure that reasonable information is available to evaluate its continuous compliance with applicable requirements. This compliance monitoring plan is comprised of:
 - (1) This condition;
 - (2) The Compliance Determination Requirements in Section D of this permit;
 - (3) The Compliance Monitoring Requirements in Section D of this permit;
 - (4) The Record Keeping and Reporting Requirements in Section C (Monitoring Data Availability, General Record Keeping Requirements, and General Reporting Requirements) and in Section D of this permit; and
 - (5) A Compliance Response Plan (CRP) for each compliance monitoring condition of this permit. CRP's shall be submitted to IDEM, OAM upon request and shall be subject to review and approval by IDEM, OAM. The CRP shall be prepared within ninety (90) days after issuance of this permit by the Permittee and maintained on site, and is comprised of :

- (A) Response steps that will be implemented in the event that compliance related information indicates that a response step is needed pursuant to the requirements of Section D of this permit; and
 - (B) A time schedule for taking such response steps including a schedule for devising additional response steps for situations that may not have been predicted.
- (b) For each compliance monitoring condition of this permit, appropriate response steps shall be taken when indicated by the provisions of that compliance monitoring condition. Failure to perform the actions detailed in the compliance monitoring conditions or failure to take the response steps within the time prescribed in the Compliance Response Plan, shall constitute a violation of the permit unless taking the response steps set forth in the Compliance Response Plan would be unreasonable.
- (c) After investigating the reason for the excursion, the Permittee is excused from taking further response steps for any of the following reasons:
 - (1) The monitoring equipment malfunctioned, giving a false reading. This shall be an excuse from taking further response steps providing that prompt action was taken to correct the monitoring equipment.
 - (2) The Permittee has determined that the compliance monitoring parameters established in the permit conditions are technically inappropriate, has previously submitted a request for an administrative amendment to the permit, and such request has not been denied or;
 - (3) An automatic measurement was taken when the process was not operating; or
 - (4) The process has already returned to operating within "normal" parameters and no response steps are required.
- (d) Records shall be kept of all instances in which the compliance related information was not met and of all response steps taken. In the event of an emergency, the provisions of 326 IAC 2-7-16 (Emergency Provisions) requiring prompt corrective action to mitigate emissions shall prevail.

C.15 Actions Related to Noncompliance Demonstrated by a Stack Test

- (a) When the results of a stack test performed in conformance with Section C - Performance Testing, of this permit exceed the level specified in any condition of this permit, the Permittee shall take appropriate corrective actions. The Permittee shall submit a description of these corrective actions to IDEM, OAM, within thirty (30) days of receipt of the test results. The Permittee shall take appropriate action to minimize emissions from the affected emissions unit while the corrective actions are being implemented. IDEM, OAM shall notify the Permittee within thirty (30) days, if the corrective actions taken are deficient. The Permittee shall submit a description of additional corrective actions taken to IDEM, OAM within thirty (30) days of receipt of the notice of deficiency. IDEM, OAM reserves the authority to use enforcement activities to resolve noncompliant stack tests.

- (b) A retest to demonstrate compliance shall be performed within one hundred twenty (120) days of receipt of the original test results. Should the Permittee demonstrate to IDEM, OAM that retesting in one-hundred and twenty (120) days is not practicable, IDEM, OAM may extend the retesting deadline. Failure of the second test to demonstrate compliance with the appropriate permit conditions may be grounds for immediate revocation of the permit to operate the affected emissions unit.

The documents submitted pursuant to this condition do not require the certification by the "authorized individual" as defined by 326 IAC 2-1.1-1.

Record Keeping and Reporting Requirements

C.16 Malfunctions Report [326 IAC 1-6-2]

Pursuant to 326 IAC 1-6-2 (Records; Notice of Malfunction):

- (a) A record of all malfunctions, including startups or shutdowns of any facility or emission control equipment, which result in violations of applicable air pollution control regulations or applicable emission limitations shall be kept and retained for a period of three (3) years and shall be made available to the Indiana Department of Environmental Management (IDEM), Office of Air Management (OAM) or appointed representative upon request.
- (b) When a malfunction of any facility or emission control equipment occurs which lasts more than one (1) hour, said condition shall be reported to OAM, using the Malfunction Report Forms (2 pages). Notification shall be made by telephone or facsimile, as soon as practicable, but in no event later than four (4) daytime business hours after the beginning of said occurrence.
- (c) Failure to report a malfunction of any emission control equipment shall constitute a violation of 326 IAC 1-6, and any other applicable rules. Information of the scope and expected duration of the malfunction shall be provided, including the items specified in 326 IAC 1-6-2(a)(1) through (6).
- (d) Malfunction is defined as any sudden, unavoidable failure of any air pollution control equipment, process, or combustion or process equipment to operate in a normal and usual manner. [326 IAC 1-2-39]

C.17 Monitoring Data Availability [326 IAC 2-6.1-2] [IC 13-14-1-13]

- (a) With the exception of performance tests conducted in accordance with Section C-Performance Testing, all observations, sampling, maintenance procedures, and record keeping, required as a condition of this permit shall be performed at all times the equipment is operating at normal representative conditions.
- (b) As an alternative to the observations, sampling, maintenance procedures, and record keeping of subsection (a) above, when the equipment listed in Section D of this permit is not operating, the Permittee shall either record the fact that the equipment is shut down or perform the observations, sampling, maintenance procedures, and record keeping that would otherwise be required by this permit.
- (c) If the equipment is operating but abnormal conditions prevail, additional observations and sampling should be taken with a record made of the nature of the abnormality.

- (d) If for reasons beyond its control, the operator fails to make required observations, sampling, maintenance procedures, or record keeping, reasons for this must be recorded.
- (e) At its discretion, IDEM may excuse such failure providing adequate justification is documented and such failures do not exceed five percent (5%) of the operating time in any quarter.
- (f) Temporary, unscheduled unavailability of staff qualified to perform the required observations, sampling, maintenance procedures, or record keeping shall be considered a valid reason for failure to perform the requirements stated in (a) above.

C.18 General Record Keeping Requirements [326 IAC 2-6.1-2]

- (a) Records of all required monitoring data and support information shall be retained for a period of at least five (5) years from the date of monitoring sample, measurement, report, or application. These records shall be kept at the source location for a minimum of three (3) years and available upon the request of an IDEM, OAM, representative. The records may be stored elsewhere for the remaining two (2) years as long as they are available upon request. If the Commissioner makes a written request for records to the Permittee, the Permittee shall furnish the records to the Commissioner within a reasonable time.
- (b) Records of required monitoring information shall include, where applicable:
 - (1) The date, place, and time of sampling or measurements;
 - (2) The dates analyses were performed;
 - (3) The company or entity performing the analyses;
 - (4) The analytic techniques or methods used;
 - (5) The results of such analyses; and
 - (6) The operating conditions existing at the time of sampling or measurement.
- (c) Support information shall include, where applicable:
 - (1) Copies of all reports required by this permit;
 - (2) All original strip chart recordings for continuous monitoring instrumentation;
 - (3) All calibration and maintenance records;
 - (4) Records of preventive maintenance shall be sufficient to demonstrate that improper maintenance did not cause or contribute to a violation of any limitation on emissions or potential to emit. To be relied upon subsequent to any such violation, these records may include, but are not limited to: work orders, parts inventories, and operator's standard operating procedures. Records of response steps taken shall indicate whether the response steps were performed in accordance with the Compliance Response Plan required by Section C - Compliance Monitoring Plan - Failure to take Response Steps, of this permit, and whether a deviation from a permit condition was reported. All records shall briefly describe what maintenance and response steps were taken and indicate who performed the tasks.

- (d) All record keeping requirements not already legally required shall be implemented within ninety (90) days of permit issuance.

C.19 General Reporting Requirements [326 IAC 2-1.1-11] [326 IAC 2-6.1-2] [IC 13-14-1-13]

- (a) To affirm that the source has met all the compliance monitoring requirements stated in this permit the source shall submit a Quarterly Compliance Monitoring Report. Any deviation from the requirements and the date of each deviation must be reported. The Compliance Monitoring Report shall include the certification by the "authorized individual" as defined by 326 IAC 2-1.1-1(1).
- (b) The report required in (a) of this condition and reports required by conditions in Section D of this permit shall be submitted to:

Indiana Department of Environmental Management
Compliance Data Section, Office of Air Management
100 North Senate Avenue, P. O. Box 6015
Indianapolis, Indiana 46206-6015
- (c) Unless otherwise specified in this permit, any notice, report, or other submission required by this permit shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAM, on or before the date it is due.
- (d) Unless otherwise specified in this permit, any semi-annual report shall be submitted within thirty (30) days of the end of the reporting period. The report does not require the certification by the "authorized individual" as defined by 326 IAC 2-1.1-1(1).
- (e) All instances of deviations as described in Section B- Deviations from Permit Requirements Conditions must be clearly identified in such reports. The Emergency/Deviation Occurrence Report does not require the certification by the "authorized individual" as defined by 326 IAC 2-1.1-1(1).
- (f) Any corrective actions or response steps taken as a result of each deviation must be clearly identified in such reports.
- (g) The first report shall cover the period commencing on the date of issuance of this permit and ending on the last day of the reporting period.

SECTION D.1

EMISSIONS UNIT OPERATION CONDITIONS

1. one (1) natural gas fired space heater, maximum heat input capacity of 0.4 MMBtu per hour;
2. fourteen (14) grinders (# 1 to 14), maximum capacity of 285 pounds per hour, each, exhausting to a baghouse (Dust 1) with a gas flow rate of 21,600 acfm at 70 ° F, exhausting inside the plant;
3. two (2) grinders (# 15 and # 16), maximum capacity of 285 pounds per hour, each, exhausting to a baghouse (Dust 3) with a gas flow rate of 3,000 acfm at 70 ° F, exhausting inside the plant;
4. two (2) grinders (# 17 and # 18), maximum capacity of 285 pounds per hour, each, exhausting to a baghouse (Dust 4) with a gas flow rate of 3,000 acfm at 70 ° F, exhausting inside the plant;
5. two (2) grinders (# 20 and # 21), maximum capacity of 285 pounds per hour, each, exhausting to a baghouse (Dust 6) with a gas flow rate of 3,000 acfm at 70 ° F, exhausting inside the plant;
6. one (1) grinder (# 19), maximum capacity of 285 pounds per hour, exhausting to a baghouse (Dust 5) with a maximum design flow rate of 1,200 acfm, exhausting inside the plant;
7. one (1) shotblast machine (Blaster # 1), maximum capacity of 3.0 tons per hour, exhausting to a baghouse (Dust 2) with a gas flow rate of 2,600 acfm at 70 ° F, exhausting inside the plant;

Emission Limitations and Standards

Emission Limitations and Standards

D.1.1 Particulate Matter (PM) [326 IAC 6-3]

7. Pursuant to 326 IAC 6-3-2, the allowable PM emission rate from the shot blasters nos. 1 and 2 and each grinding finishing machine shall not exceed, the allowable PM emission rate of 8.55, and 0.41 pounds per hour when operating at a process weight rate of 6000 pounds per hour, and 285 pounds per hour each, respectively.

The emission rate was established as E from the following formula:
Interpolation and extrapolation of the data for the process weight rate up to 60,000 pounds per hour shall be accomplished by use of the equation:

$$E = 4.10 P^{0.67} \quad \text{where } E = \text{rate of emission in pounds per hour; and} \\ P = \text{process weight rate in tons per hour}$$

Compliance Determination Requirements [326 IAC 2-5.1-3(e)(2)] [326 IAC 2-6.1-5(a)(2)]

D.1.2 Testing Requirements [326 IAC 2-1.1-11]

The Permittee is not required to test this emissions unit by this permit. However, IDEM may require compliance testing when necessary to determine if the emissions unit is in compliance. If testing is required by IDEM, compliance with the PM limit specified in Condition D.1.1 shall be determined by a performance test conducted in accordance with Section C - Performance Testing.

Compliance Monitoring Requirements [326 IAC 2-5.1-3(e)(2)] [326 IAC 2-6.1-5(a)(2)]

D.1.3 Visible Emissions Notations

- (a) Visible emission notations of the shot blaster stack exhaust shall be performed once per shift during normal daylight operations when exhausting to the atmosphere. A trained employee shall record whether emissions are normal or abnormal.
- (b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.
- (c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.
- (d) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.
- (e) The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when an abnormal emission is observed.

D.1.4 Parametric Monitoring

The Permittee shall record the total static pressure drop across the baghouse used in conjunction with the grinding, finishing, and shot blasting operation, at least once per shift when the grinding, finishing and shot blasting is in operation when venting to the atmosphere. Unless operated under conditions for which the Compliance Response Plan specifies otherwise, the pressure drop across the baghouse shall be maintained within the range indicated in the following table or a range established during the latest stack test. The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when the pressure reading is outside of the above mentioned range for any one reading.

The instrument used for determining the pressure shall comply with Section C - Pressure Gauge Specifications, of this permit, shall be subject to approval by IDEM, OAM, and shall be calibrated at least once every six (6) months.

Dust Collector #	Pressure drop Range
1 and 2	1-5"
3, 4, and 6	1-6"
5	1-6"

D.1.5 Baghouse Inspections

An inspection shall be performed each calendar quarter of all bags controlling the woodworking operation when venting to the atmosphere. A baghouse inspection shall be performed within three months of redirecting vents to the atmosphere and every three months thereafter. Inspections are optional when venting to the indoors. All defective bags shall be replaced.

D.1.6 Broken or Failed Bag Detection

In the event that bag failure has been observed:

- (a) The affected compartments will be shut down immediately until the failed units have been repaired or replaced. Within eight (8) hours of the determination of failure, response steps according to the timetable described in the Compliance Response Plan shall be initiated. For any failure with corresponding response steps and timetable not described in the Compliance Response Plan, response steps shall be devised within eight (8) hours of discovery of the failure and shall include a timetable for completion. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).
- (b) For single compartment baghouses, failed units and the associated process will be shut down immediately until the failed units have been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

Record Keeping and Reporting Requirement [326 IAC 2-5.1-3(e)(2)] [326 IAC 2-6.1-5(a)(2)]

D.1.7 Record Keeping Requirements

- (a) To document compliance with Condition D.1.3, the Permittee shall maintain records of visible emission notations of the shot blaster stack exhaust once per shift.
- (b) To document compliance with Condition D.1.4, the Permittee shall maintain the following:
 - (1) Per shift records of the following operational parameters during normal operation when venting to the atmosphere:
 - (A) Inlet and outlet differential static pressure; and
 - (B) Cleaning cycle: frequency and differential pressure.
 - (2) Documentation of all response steps implemented, per event .
 - (3) Operation and preventive maintenance logs, including work purchases orders, shall be maintained.
 - (4) Quality Assurance/Quality Control (QA/QC) procedures.
 - (5) Operator standard operating procedures (SOP).
 - (6) Manufacturer's specifications or its equivalent.
 - (7) Equipment "troubleshooting" contingency plan.
 - (8) Documentation of the dates vents are redirected.
- (b) To document compliance with Condition D.1.5, the Permittee shall maintain records of the results of the inspections required under Condition D.1.5 and the dates the vents are redirected.
- (c) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

SECTION D.2

FACILITY OPERATION CONDITIONS

- (a) one (1) shotblast machine (Blaster # 1), maximum capacity of 3.0 tons per hour, exhausting to a baghouse (Dust 2) with a gas flow rate of 2,600 acfm at 70 ° F, exhausting inside the plant;
- (b) one (1) grinder (# 22), maximum capacity of 285 pounds per hour, each, exhausting to a baghouse (Dust 9) with a gas flow rate of 2,600 acfm at 70 ° F, exhausting inside the plant;
- (c) one (1) grinder (# 23), maximum capacity of 285 pounds per hour, each, exhausting to a baghouse (Dust 10) with a gas flow rate of 2,600 acfm at 70 ° F, exhausting inside the plant;
- (d) four (4) grinders (# 24, #25, #26, # 27), maximum capacity of 285 pounds per hour, each, exhausting to a baghouse (Dust 1) with a gas flow rate of 21,600 acfm at 70 ° F, exhausting inside the plant;

Emission Limitations and Standards

D.2.1 Particulate Matter (PM) [326 IAC 6-3]

Pursuant to 326 IAC 6-3 (Process Operations), the allowable PM emission rate from:

- (a) grinder identified as 22 shall not exceed 1.11 pounds per hour when operating at a process weight rate of 285 pounds per hour;
- (b) grinder identified as 23 shall not exceed 1.11 pounds per hour when operating at a process weight rate of 285 pounds per hour;
- (c) grinder identified as 24 shall not exceed 1.11 pounds per hour when operating at a process weight rate of 285 pounds per hour;
- (d) grinder identified as 25 shall not exceed 1.11 pounds per hour when operating at a process weight rate of 285 pounds per hour;
- (e) grinder identified as 26 shall not exceed 1.11 pounds per hour when operating at a process weight rate of 285 pounds per hour;
- (f) grinder identified as 27 shall not exceed 1.11 pounds per hour when operating at a process weight rate of 285 pounds per hour;

The pounds per hour limitation was calculated with the following equation:

Interpolation and extrapolation of the data for the process weight rate up to 60,000 pounds per hour shall be accomplished by use of the equation:

$$E = 4.10 P^{0.67}$$

where E = rate of emission in pounds per hour; and
P = process weight rate in tons per hour

D.2.2 Preventive Maintenance Plan

A Preventive Maintenance Plan, in accordance with Section B - Preventive Maintenance Plan, of this permit, is required for the grinders identified as #22, #23, #24, #25, #26, #27 and dust collectors identified as #9, #10, #1.

Compliance Determination Requirements

D.2.3 Testing Requirements [326 IAC 2-1-3]

The Permittee is not required to test these facilities identified as grinders #22, #23, #24, #25, #26 and #27 by this permit. However, IDEM may require compliance testing at any specific time when necessary to determine if the facility is in compliance. If testing is required by IDEM, compliance with the particulate matters (PM) limit specified in Condition D.1.1 shall be determined by a performance test conducted in accordance with Section C - Performance Testing.

D.2.4 Particulate Matter (PM)

- (a) The dust collector identified as # 9 for PM control shall be in operation at all times when the grinder identified as #22 is in operation and exhausting to the outside atmosphere;
- (b) The dust collector identified as # 10 for PM control shall be in operation at all times when the grinder identified as #23 is in operation and exhausting to the outside atmosphere;
- (c) The dust collector identified as # 1 for PM control shall be in operation at all times when the grinders identified as #24, #25 #26 and #27 are in operation and exhausting to the outside atmosphere.

SECTION D-3.

FACILITY CONDITIONS

- (a) Two (2) shot blasters, identified as Blaster 2 and Blaster 3 with maximum capacity of 3.0 tons per hour, each, exhausting to baghouses identified as Dust 11 and 12, respectively;
- (b) Two (2) baghouses (Dust 11 and 12) with a maximum design flow rate of 2,600 acfm , each, at 70° F, exhausting inside the plant.

THIS SECTION OF THE PERMIT IS BEING ISSUED UNDER THE PROVISIONS OF 326 IAC 2-1, 326 IAC 2-7-10.5 AND 40 CFR 52.780, WITH CONDITIONS LISTED BELOW.

Construction Conditions

General Construction Conditions

- D.3.1 This permit to construct does not relieve the Permittee of the responsibility to comply with the provisions of the Indiana Environmental Management Law (IC 13-11 through 13-20; 13-22 through 13-25; and 13-30), the Air Pollution Control Law (IC 13-17) and the rules promulgated thereunder, as well as other applicable local, state, and federal requirements.
- D.3.2 Pursuant to IC 13-15-5-3, this section of this permit becomes effective upon its issuance.
- D.3.3 All requirements of these construction conditions shall remain in effect unless modified in a manner consistent with procedures established for modifications pursuant to 326 IAC 2.

Emission Limitations and Standards

D.3.4 Particulate Matter (PM) [326 IAC 6-3-2(c)]

Pursuant to 326 IAC 6-3-2, the allowable PM emission rate from the shot blasters nos. 2 and 3 shall not exceed 6.81 pounds per hour, each, when operating at a process weight rate of 6000 pounds per hour, each.

The emission rate established as E in the following formula:

Interpolation and extrapolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$$E = 4.10 P^{0.67}$$

where E = rate of emission in pounds per hour; and
P = process weight rate in tons per hour

Compliance Determination Requirements

D.3.5 Testing Requirements [326 IAC 2-1.1-11]

The Permittee is not required to test this emissions unit by this permit. However, IDEM may require compliance testing when necessary to determine if the emissions unit is in compliance. If testing is required by IDEM, compliance with the PM and PM-10 limit specified in Condition D.3.4 shall be determined by a performance test conducted in accordance with Section C - Performance Testing.

D.3.6 Particulate Matter (PM)

The baghouses and dust collectors for PM control shall be in operation at all times when the grinding, finishing and shot blasting machines are in operation.

Compliance Monitoring Requirements [326 IAC 2-5.1-3(e)(2)] [326 IAC 2-6.1-5(a)(2)]

D.3.7 Visible Emissions Notations

- (a) Visible emission notations of the shot blaster stack exhaust shall be performed once per shift during normal daylight operations when exhausting to the atmosphere. A trained employee shall record whether emissions are normal or abnormal.
- (b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.

- (c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.
- (d) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.
- (e) The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when an abnormal emission is observed.

D.3.8 Parametric Monitoring

The Permittee shall record the total static pressure drop across the baghouse used in conjunction with the grinding, finishing, and shot blasting operation, at least once per shift when the grinding, finishing and shot blasting is in operation when venting to the atmosphere. Unless operated under conditions for which the Compliance Response Plan specifies otherwise, the pressure drop across the baghouse shall be maintained within the range indicated in the following table or a range established during the latest stack test. The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when the pressure reading is outside of the above mentioned range for any one reading.

The instrument used for determining the pressure shall comply with Section C - Pressure Gauge Specifications, of this permit, shall be subject to approval by IDEM, OAM, and shall be calibrated at least once every six (6) months.

Dust Collector Nos.	Pressure drop Range
11 and 12	1-5"

D.3.9 Baghouse Inspections

An inspection shall be performed each calendar quarter of all bags controlling the shot blasters, grinding and or finishing operation when venting to the atmosphere. A baghouse inspection shall be performed within three months of redirecting vents to the atmosphere and every three months thereafter. Inspections are optional when venting to the indoors. All defective bags shall be replaced.

D.3.10 Broken or Failed Bag Detection

In the event that bag failure has been observed:

- (a) The affected compartments will be shut down immediately until the failed units have been repaired or replaced. Within eight (8) hours of the determination of failure, response steps according to the timetable described in the Compliance Response Plan shall be initiated. For any failure with corresponding response steps and timetable not described in the Compliance Response Plan, response steps shall be devised within eight (8) hours of discovery of the failure and shall include a timetable for completion. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).
- (b) For single compartment baghouses, failed units and the associated process will be shut down immediately until the failed units have been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the

requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

Record Keeping and Reporting Requirement [326 IAC 2-5.1-3(e)(2)] [326 IAC 2-6.1-5(a)(2)]

D.3.11 Record Keeping Requirements

- (a) To document compliance with Condition D.3.7, the Permittee shall maintain records of visible emission notations of the shot blaster stack exhaust once per shift.
- (b) To document compliance with Condition D.3.8, the Permittee shall maintain the following:
 - (1) Per shift records of the following operational parameters during normal operation when venting to the atmosphere:
 - (A) Inlet and outlet differential static pressure; and
 - (B) Cleaning cycle: frequency and differential pressure.
 - (2) Documentation of all response steps implemented, per event .
 - (3) Operation and preventive maintenance logs, including work purchases orders, shall be maintained.
 - (4) Quality Assurance/Quality Control (QA/QC) procedures.
 - (5) Operator standard operating procedures (SOP).
 - (6) Manufacturer's specifications or its equivalent.
 - (7) Equipment "troubleshooting" contingency plan.
 - (8) Documentation of the dates vents are redirected.
- (c) To document compliance with Condition D.3.8, the Permittee shall maintain records of the results of the inspections required under Condition D.3.8 and the dates the vents are redirected.
- (d) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

MALFUNCTION REPORT
INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR MANAGEMENT
FAX NUMBER - 317 233-5967

This form should only be used to report malfunctions applicable to Rule 326 IAC 1-6
and to qualify for the exemption under 326 IAC 1-6-4.

THIS FACILITY MEETS THE APPLICABILITY REQUIREMENTS BECAUSE IT HAS POTENTIAL TO EMIT 25 TONS/YEAR PARTICULATE MATTER ?_____, 25 TONS/YEAR SULFUR DIOXIDE ?_____, 25 TONS/YEAR NITROGEN OXIDES?_____, 25 TONS/YEAR VOC ?_____, 25 TONS/YEAR HYDROGEN SULFIDE ?_____, 25 TONS/YEAR TOTAL REDUCED SULFUR ?_____, 25 TONS/YEAR REDUCED SULFUR COMPOUNDS ?_____, 25 TONS/YEAR FLUORIDES ?_____, 100TONS/YEAR CARBON MONOXIDE ?_____, 10 TONS/YEAR ANY SINGLE HAZARDOUS AIR POLLUTANT ?_____, 25 TONS/YEAR ANY COMBINATION HAZARDOUS AIR POLLUTANT ?_____, 1 TON/YEAR LEAD OR LEAD COMPOUNDS MEASURED AS ELEMENTAL LEAD ?_____, OR IS A SOURCE LISTED UNDER 326 IAC 2-5.1-3(2) ?_____. EMISSIONS FROM MALFUNCTIONING CONTROL EQUIPMENT OR PROCESS EQUIPMENT CAUSED EMISSIONS IN EXCESS OF APPLICABLE LIMITATION _____.

THIS MALFUNCTION RESULTED IN A VIOLATION OF: 326 IAC _____ OR, PERMIT CONDITION # _____ AND/OR PERMIT LIMIT OF _____

THIS INCIDENT MEETS THE DEFINITION OF 'MALFUNCTION' AS LISTED ON REVERSE SIDE ? Y N

THIS MALFUNCTION IS OR WILL BE LONGER THAN THE ONE (1) HOUR REPORTING REQUIREMENT ? Y N

COMPANY: _____ Precision Processes Division _____ PHONE NO. (219)_362-8531_____

LOCATION: (CITY AND COUNTY) Walkerton, Indiana _____

PERMIT NO. _141-10838_____ AFS PLANT ID: _141-00141_____ AFS POINT ID: _____

INSP: _____

CONTROL/PROCESS DEVICE WHICH MALFUNCTIONED AND REASON _____

DATE/TIME MALFUNCTION STARTED: ____/____/ 19____ AM / PM

ESTIMATED HOURS OF OPERATION WITH MALFUNCTION CONDITION: _____

DATE/TIME CONTROL EQUIPMENT BACK-IN SERVICE ____/____/ 19____ AM/PM

TYPE OF POLLUTANTS EMITTED: TSP, PM-10, SO₂, VOC, OTHER: _____

ESTIMATED AMOUNT OF POLLUTANT EMITTED DURING MALFUNCTION: _____

MEASURES TAKEN TO MINIMIZE EMISSIONS: _____

REASONS WHY FACILITY CANNOT BE SHUTDOWN DURING REPAIRS:

CONTINUED OPERATION REQUIRED TO PROVIDE ESSENTIAL* SERVICES: _____

CONTINUED OPERATION NECESSARY TO PREVENT INJURY TO PERSONS: _____

CONTINUED OPERATION NECESSARY TO PREVENT SEVERE DAMAGE TO EQUIPMENT: _____

INTERIM CONTROL MEASURES: (IF APPLICABLE) _____

MALFUNCTION REPORTED BY: _____ TITLE: _____
(SIGNATURE IF FAXED)

MALFUNCTION RECORDED BY: _____ DATE: _____ TIME: _____

*SEE PAGE 2

PAGE 1 OF 2

**Please note - This form should only be used to report malfunctions
applicable to Rule 326 IAC 1-6 and to qualify for
the exemption under 326 IAC 1-6-4.**

326 IAC 1-6-1 Applicability of rule

Sec. 1. This rule applies to the owner or operator of any facility required to obtain a permit under 326 IAC 2-5.1 or 326 IAC 2-6.1.

326 IAC 1-2-39 "Malfunction" definition

Sec. 39. Any sudden, unavoidable failure of any air pollution control equipment, process, or combustion or process equipment to operate in a normal and usual manner.

***Essential services** are interpreted to mean those operations, such as, the providing of electricity by power plants. Continued operation solely for the economic benefit of the owner or operator shall not be sufficient reason why a facility cannot be shutdown during a control equipment shutdown.

If this item is checked on the front, please explain rationale:

Page 2 of 2

**Indiana Department of Environmental Management
Office of Air Management**

**Technical Support Document (TSD) for
Minor Source Operating Permit**

Source Background and Description

Source Name: Precision Processes Division
Source Location: 31350 Fulmer Street, Walkerton, Indiana 46574
County: St. Joseph
SIC Code: 3449
Operation Permit No.: 141-10838-00141
Permit Reviewer: Yogesh Parikh

The Office of Air Management (OAM) has reviewed an application from Precision Processes Division relating to the construction and operation of finishing and cleaning of ferrous and non-ferrous castings. The process modification includes the addition of the following equipment.

- (a) Two (2) shot blasters, maximum capacity of 3.0 tons per hour, each, exhausting to baghouses identified as Dust 11 and 12, respectively;
- (b) Two (2) baghouses (Dust 11 and 12) with a maximum design flow rate of 2,600 acfm, each, at 70⁰ F, exhausting inside the plant.

Permitted Emission Units and Pollution Control Equipment

The source consists of the following permitted emission units and pollution control devices:

- 1. one (1) natural gas fired space heater, maximum heat input capacity of 0.4 MMBtu per hour;
- 2. fourteen (14) grinders (# 1 to 14), maximum capacity of 285 pounds per hour, each, exhausting to Dust 1.
- 3. one (1) baghouse (Dust 1) with a gas flow rate of 21,600 acfm at 70 ⁰ F, exhausting inside the plant;
- 4. two (2) grinders (# 15 and # 16), maximum capacity of 285 pounds per hour, each, exhausting to Dust 3;
- 5. one (1) baghouse (Dust 3) with a gas flow rate of 3,000 acfm at 70 ⁰ F, exhausting inside the plant;
- 6. two (2) grinders (# 17 and # 18), maximum capacity of 285 pounds per hour, each, exhausting to Dust 4;

7. one (1) baghouse (Dust 4) with a gas flow rate of 3,000 acfm at 70 ° F, exhausting inside the plant;
- 8 two (2) grinders (# 20 and # 21), maximum capacity of 285 pounds per hour, each, exhausting to Dust 6;
9. one (1) baghouse (Dust 6) with a gas flow rate of 3,000 acfm at 70 ° F, exhausting inside the plant;
10. one (1) grinder (# 19), maximum capacity of 285 pounds per hour, exhausting to Dust 5;
- 11 one (1) baghouse (Dust 5) with a maximum design flow rate of 1,200 acfm, exhausting inside the plant;

History:

Precision Processes is adding two (2) new shot blast machines identified as Blaster No. 2 and 3. They will be used for cleaning grey iron and aluminum bronze castings. Each shot blaster will be able to process 6,000 pounds per hour of castings. The particulate matter emissions will be controlled by two new dust collectors, identified as Dust 11 and Dust 12 which will have control efficiency of 99.9 percent. Precision intends to make some additional modification at the source. This modification includes (a) removal of ball mill (Ball 1), (b) removal of magnetic separator (SCRN1), (c) removal of calciner (Calc1), (d) removal of the storage silo tank, and (e) the removal of two (2) baghouses associated with these operations (Dust 7 & Dust 8). After removal of these pieces of equipment, the source will no longer be capable of reclaiming sand.

Unpermitted Emission Units and Pollution Control Equipment

There are no unpermitted facilities operating at this source during this review process.

Existing Approvals

The source has been operating under previous approvals including, but not limited to, the following:

- (a) CP-141-6710- 00141, issued on July 23, 1997.
- (b) A 141-9130 to CP 141-6710, issued on December 1, 1997.

Stack Summary

Stack ID	Operation	Height (feet)	Diameter (feet)	Flow Rate (acfm)	Temperature (°F)
8	Shot blast 2	17	2x2	2,600	80
9	Shot blast 3	17	2x2	2,600	80

Review Engineer: Yogesh Parikh

Enforcement Issue

There are no enforcement actions pending.

Recommendation

The staff recommends to the Commissioner that the construction and operation be approved. This recommendation is based on the following facts and conditions:

Unless otherwise stated, information used in this review was derived from the application and additional information submitted by the applicant.

A complete application for the purposes of this review was received on April 5, 1999.

Emission Calculations

See Appendix A of this document for detailed emissions calculations (Three (3) pages).

Potential To Emit Before Control (existing source)

Pollutant	Potential To Emit (tons/year)
PM	226.42
PM-10	24.91
SO ₂	0.0
VOC	0.71
CO	0.3
NO _x	1.5
Single HAP	0.0
Combination of HAPs	0.0

Potential To Emit Before Control (Source modification)

Pursuant to 326 IAC 2-1.1-1(16), Potential to Emit is defined as “the maximum capacity of a stationary source or emissions unit to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or type or amount of material combusted, stored, or processed shall be treated as part of its design if the limitation is enforceable by the U. S. EPA, the department, or the appropriate local air pollution control agency.”

Pollutant	Potential To Emit (tons/year)
PM	446.76
PM-10	44.68
SO ₂	0.0
VOC	0.0
CO	0.0
NO _x	0.0
Single HAP	0.0
Combination of HAPs	0.0

- (a) The potential to emit (as defined in 326 IAC 2-7-1(29)) of particulate matter 10 microns (PM10) and rest of the criteria pollutants are less than 100 tons per year. Therefore, the source is not subject to the provisions of 326 IAC 2-7.
- (b) The potential to emit (as defined in 326 IAC 2-7-1(29)) of any single HAP is less than ten (10) tons per year and the potential to emit (as defined in 326 IAC 2-7-1(29)) of a combination HAPs is less than twenty-five (25) tons per year. Therefore, the source is not subject to the provisions of 326 IAC 2-7.
- (c) Fugitive Emissions
Since this type of operation is not one of the twenty-eight (28) listed source categories under 326 IAC 2-2 and since there are no applicable New Source Performance Standards that were in effect on August 7, 1980, the fugitive particulate matter (PM) and volatile organic compound (VOC) emissions are not counted toward determination of PSD and Emission Offset applicability.

County Attainment Status

The source is located in St. Joseph County.

Pollutant	Status
PM-10	Attainment
SO ₂	Attainment
NO ₂	Attainment
Ozone	Attainment
CO	Attainment
Lead	Attainment

- (a) Volatile organic compounds (VOC) are precursors for the formation of ozone. Therefore, VOC emissions are considered when evaluating the rule applicability relating to the ozone standards. St. Joseph County has been designated as attainment or unclassifiable for ozone. Therefore, VOC emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR 52.21.
- (b) St. Joseph County has been classified as attainment for rest of the criteria pollutants. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR 52.21.

Source Status

Existing Source PSD Definition (emissions after controls, based on 8,760 hours of operation per year at rated capacity):

Pollutant	Emissions (ton/yr)
PM	0.8
PM10	0.8
VOC	0.7
CO	0.3
NO _x	1.5
SO ₂	0.0
Single HAP	0.037
Combination HAPs	0.081

- (a) This existing source is not a major stationary source because no attainment regulated pollutant is emitted at a rate of 250 tons per year or more, and it is not in one of the 28 listed source categories.
- (b) These emissions were based on the previous permit(CP 141-6710-00141) issued to the source.

Potential controlled emissions from the proposed modification (based on 8,760 hours of operation per year at rated capacity including enforceable emission control):

Pollutant	PM (ton/yr)	PM10 (ton/yr)	SO ₂ (ton/yr)	VOC (ton/yr)	CO (ton/yr)	NO _x (ton/yr)
Proposed Modification	4.46	0.44	0.0	0.0	0.0	0.0
PSD Threshold Level	250	250	250	250	250	250

This modification to an existing minor stationary source is not major because the emission increase is less than the PSD threshold levels. Therefore, pursuant to 326 IAC 2-2, and 40 CFR 52.21, the PSD requirements do not apply.

Part 70 Permit Determination

326 IAC 2-7 (Part 70 Permit Program)

This existing source, including the emissions from this permit **CP-141-10838-00141**, is still not subject to the Part 70 Permit requirements because the potential to emit (PTE) of:

- (a) each criteria pollutant is less than 100 tons per year,
- (b) a single hazardous air pollutant (HAP) is less than 10 tons per year, and
- (c) any combination of HAPs is less than 25 tons/year.

This status is based on all the air approvals issued to the source.

Federal Rule Applicability

- (a) There are no New Source Performance Standards (NSPS)(326 IAC 12 and 40 CFR Part 60) applicable to this source.
- (b) There are no National Emission Standards for Hazardous Air Pollutants (NESHAPs)(326 IAC 14 and 40 CFR part 61 and 63) applicable to this source.

State Rule Applicability

326 IAC 6-3-2:

The particulate matter emissions from the shot blasting machines are subject to rule 326 IAC 6-3-2. Pursuant to this rule the PM emissions shall be limited to 13.62 pounds per hour. It is calculated that the PM emissions after controls are 0.102 pounds per hour which are less than the allowable emissions. Therefore, the shot blasting machines are in compliance with the rule 326 IAC 6-3-2.

326 IAC 2-7:

This source is not subject to part 70 permit program to get a Federally Enforceable State Operating Permit (FESOP) or Title V Operating Permit because the potential emissions of particulate matter 10 microns (PM₁₀) , and the volatile organic compounds (VOC) are less than 100 tons per year.

Air Toxic Emissions

Indiana presently requests applicants to provide information on emissions of the 189 hazardous air pollutants set out in the Clean Air Act Amendments of 1990. These pollutants are either carcinogenic or otherwise considered toxic and are commonly used by industries. They are listed as air toxics on the Office of Air Management (OAM) Construction Permit Application Form Y.

This source will emit levels of air toxics less than those which constitute a major source according to Section 112 of the 1990 Amendments to Clean Air Act.

Conclusion

The construction and operation of these shot blasting equipment with the baghouses control will be subject to the conditions of the attached **minor source operating permit No. MSOP-141-10838-00141**.

Indiana Department of Environmental Management Office of Air Management

Addendum to the Technical Support Document for Minor Source Operating Permit

Source Background and Description

Source Name: Precision Processes Division
Source Location: 31350 Fulmer Street, Walkerton, Indiana 46574
County: St. Joseph
SIC Code: 3449
Operation Permit No.: 141-10838-00141
Permit Reviewer: Yogesh Parikh

On June 18, 1999, the Office of Air Management (OAM) had a notice published in the South Bend Tribune, South Bend, Indiana, stating that Precision Processes Division had applied for a construction permit to construct and operate two new shotblast machines with the baghouse as air pollution control. The notice also stated that OAM proposed to issue a permit for this installation and provided information on how the public could review the proposed permit and other documentation. Finally, the notice informed interested parties that there was a period of thirty (30) days to provide comments on whether or not this permit should be issued as proposed.

On July 22, 1999, August Mack Environmental, Inc., a consultant for Precision Processes Division submitted comments on the proposed construction permit. The summary of the comments and corresponding responses is as follows:

Comment 1:

A comment was made to combine the description of the emission unit with the description of the control device in section D.1. There was an additional comment to remove the language "with the exception of removal of calciner, storage silo and the sand reclamation system associated with the baghouse control from section D.1."

Response 1:

The changes have been made accordingly.

Comment 2:

It appears that the emission units associated with Construction Permit Number CP-141-9935-00141 issued on September 29, 1998 and an original shotblast machine were omitted from the list of emission units.

Response 2:

The emission units associated with the construction Permit No. CP-141-9935-00141 and an original shotblast machine that were omitted in the Minor Source Operating Permit are now included in Section D.2.

Comment 3:

Section B.6 (a) of the Minor Source Operating permit should only apply to the two new shotblast machines since affidavits of construction has already been submitted for the existing equipment.

Response 3:

The affidavit of construction shall only be submitted for the two new shotblast machines and the associated baghouse control. The affidavit of construction has been changed accordingly.

Comment 4:

In the paragraph D.1, the emission units listed here should be modified as indicated in paragraph A.2 (Emission Units and Pollution Control Equipment Summary) and the calciner should be deleted from the list of emission units.

Response 4:

The permit has been changed accordingly.

Comment 5:

Modify condition D.1.1(a) to reflect all the existing particulate emitting equipment listed in Section D.1 as modified in this correspondence. The two shotblast machines referenced in this paragraph should be moved to paragraph D.2 since they are new pieces of equipment.

Response 5:

The emission units associated with the construction permit CP No. CP-141-9935-00141 were missing from the proposed MSOP. The particulate matter emissions limit for the omitted emission units are now specified in section D.2.1., Also, the limit of particulate matter emissions from the new shotblast machines is specified in section D.3. The condition in section D.1.1 has not been changed.

Comment 6:

The emission units and dust collector described in the facility description in section D.1 do not exhaust to the atmosphere therefore, conditions D.1.3 (Visible Emissions Notations), D.1.4 (Parametric Monitoring), D.1.5(Baghouse Inspections), D.1.6 (Broken Bag or Failed Bag Detection), D.1.7 (Record Keeping Requirements) should be deleted. In the addendum to technical support document for the new construction and operation permit CP-141-9935-00141, the IDEM had previously waived all of these conditions for grinders 22 to 27. In addition, dust collector number 8 was associated with the calciner, therefore, it should be removed from the table in section D.1.4. Dust collectors 11 and 12 are referenced separately in Section D.2 and should be removed from the table. Dust collectors 9 and 10 should be included in this table with a pressure drop range of 1-6" W.C.

Response 6:

Exhausting into the building does not assure that no PM will be emitted to the atmosphere. If noticeable particulate matter were to be emitted from a control device, the employees working in the area would reasonably be expected to open doors or windows to allow the room to clear. Therefore, the conditions are not deleted. The dust collector No. 8 has been removed from the table in section D.1.4. Dust collectors 11 and 12 are referenced in section D.3.8 with a pressure drop range of 1-6" W.C.

Comment 7:

Since section D.3 applies to the two (2) new shotblast machines, delete the words “grinding, finishing and” from the sentence.

Response 7:

The words “grinding , finishing and “ have been deleted from the sentence.

Comment 8:

The emission units and dust collector described in the facility description in section D.2 do not exhaust to the atmosphere therefore, conditions D.2.7 (Visible Emissions Notations), D.2.8 (Parametric Monitoring), D.2.9 (Baghouse Inspections), D.2.10 (Broken Bag or Failed Bag Detection), D.2.11 (Record Keeping Requirements) should be deleted. In the addendum to technical support document for new construction and operation for permit CP-141-9935-00141, the IDEM has previously waived all of these conditions for grinders 22 to 27.

Response 8:

Exhausting into the building does not assure that no PM will be emitted to the atmosphere. If noticeable particulate matter were to be emitted from a control device, the employees working in the area would reasonably expected to open doors or windows to allow the room to clear. Therefore, the conditions are not deleted.

Emissions Calculations:

Emissions from shot blasting operation of iron castings (shot blaster 2):

Standard Classification Code (SCC) is 30400340

The emissions factor from the AIRS = 17 lb .of PM / ton of metal charged.

Maximum Throughput = 3.0 Tons/hr.

$$\begin{aligned}\text{Potential Emissions of PM} &= \text{Max. Throughput} * \text{Emission factor} \\ &= (3.0 \text{ tons/hr}) * (17 \text{ lb/ton}) \\ &= 51.0 \text{ lbs/hr} \\ &= (51.0 \text{ lbs/hr}) * (1/2,000 \text{ ton/lb}) * (8,760 \text{ hr/yr}) \\ &= 223.38 \text{ tons/yr.}\end{aligned}$$

$$\begin{aligned}\text{Potential Emissions of PM}_{10} &= \text{Max. Throughput} * \text{Emission factor} \\ &= (3.0 \text{ tons/hr}) * (1.7 \text{ lb/ton}) \\ &= 5.10 \text{ lbs/hr} \\ &= (5.10 \text{ lbs/hr}) * (1/2,000 \text{ ton/lb}) * (8,760 \text{ hr/yr}) \\ &= 22.34 \text{ tons/yr}\end{aligned}$$

Allowable Emissions of PM:

The allowable emissions from rule 326 IAC 6-3-2.

$E = 4.10 (P)^{0.67}$ where P is the process weight rate in tons/hr.

$$E = 4.10 (3.0)^{0.67}$$

$$\begin{aligned}E &= 8.56 \text{ lb/hr} \\ &= (8.56 \text{ lb/hr}) * (8,760 \text{ hr/yr}) * (1 \text{ ton} / 2,000 \text{ lb}) \\ &= 37.49 \text{ tons/yr}\end{aligned}$$

Since the PM allowable emissions are less than the potential emissions, the allowable emissions should be considered for the permitting purpose.

Controlled Emissions:

The shot blasting operations are controlled by the dust collectors of 99.9% control efficiency.

$$\begin{aligned} E &= \text{Uncontrolled emissions} * (100 - \% \text{ control efficiency}) / 100 \\ &= (223.4 \text{ tons/yr}) * (100 - 99.9) / 100 \\ &= (223.4 \text{ tons/yr}) * 0.001 \\ &= 0.23 \text{ tons/yr} \end{aligned}$$

Since the emissions of particulate matter after the controls are less than the allowable emissions, the shot blasting operations are in compliance with the rule 326 IAC 6-3-2.

Actual emissions:

Actual emissions of PM are based on the actual hour of operations.

$$\begin{aligned} \text{Actual emissions (PM)} &= \frac{\text{Emissions after controls} * \text{Actual hrs}}{8,760 \text{ hrs}} \\ &= 0.23 \text{ tons/yr} \times 2,500 \text{ actual hr.} / 8,760 \text{ hrs of operation} \\ &= 0.065 \text{ tons/yr.} \end{aligned}$$

Emissions from shot blasting operation of iron castings (shot blaster 3):

Standard Classification Code (SCC) is 30400340

The emissions factor from the AIRS = 17 lb .of PM / ton of metal charged.

Maximum Throughput = 3.0 Tons/hr.

$$\begin{aligned} \text{Potential Emissions of PM} &= \text{Max. Throughput} * \text{Emission factor} \\ &= (3.0 \text{ tons/hr}) * (17 \text{ lb/ton}) \end{aligned}$$

$$\begin{aligned} &= 51.0 \text{ lbs/hr} \\ &= (51.0 \text{ lbs/hr}) * (1/2,000 \text{ ton/lb}) * (8,760 \text{ hr/yr}) \\ &= 223.38 \text{ tons/yr.} \end{aligned}$$

Potential Emissions of PM10 = Max. Throughput * Emission factor

$$\begin{aligned} &= (3.0 \text{ tons/hr}) * (1.7 \text{ lb/ton}) \\ &= 5.10 \text{ lbs/hr} \\ &= (5.10 \text{ lbs/hr}) * (1/2,000 \text{ ton/lb}) * (8,760 \text{ hr/yr}) \\ &= 22.34 \text{ tons/yr} \end{aligned}$$

Allowable Emissions of PM :

The allowable emissions from rule 326 IAC 6-3-2.

$E = 4.10 (P)^{0.67}$ where P is the process weight rate in tons/hr.

$$E = 4.10 (3.0)^{0.67}$$

$$\begin{aligned} E &= 8.56 \text{ lb/hr} \\ &= (8.56 \text{ lb/hr}) * (8,760 \text{ hr/yr}) * (1 \text{ ton } / 2,000 \text{ lb}) \\ &= 37.49 \text{ tons/yr} \end{aligned}$$

Since the PM allowable emissions are less than the potential emissions, the allowable emissions should be considered for the permitting purpose.

Controlled Emissions:

The shot blasting operations are controlled by the dust collectors of 99.9% control efficiency.

$$\begin{aligned} E &= \text{Uncontrolled emissions} * (100 - \% \text{ control efficiency}) / 100 \\ &= (223.4 \text{ tons/yr}) * (100 - 99.9) / 100 \end{aligned}$$

$$= (223.4 \text{ tons/yr}) * 0.001$$

$$= 0.23 \text{ tons/yr}$$

Since the emissions of particulate matter after the controls are less than the allowable emissions, the shot blasting operations are in compliance with the rule 326 IAC 6-3-2.

Actual emissions:

Actual emissions of PM are based on the actual hour of operations.

$$\text{Actual emissions (PM)} = \frac{\text{Emissions after controls} * \text{Actual hrs}}{8,760 \text{ hrs}}$$

$$= 0.23 \text{ tons/yr} \times 2,500 \text{ actual hr.} / 8,760 \text{ hrs of operation}$$

$$= 0.065 \text{ tons/yr.}$$

Emissions from Sand Reclamation Process:

Standard Classification Code (SCC) is 30400350

The emissions factor from the AIRS based on SCC = 0.65 lb. of PM/ton of sand handled.

Maximum Throughput = 1 ton / hour

$$\text{Maximum Throughput in tons/ yr} = 1 \text{ (ton/hr)} * (8,760 \text{ hr/yr})$$

$$= 8,760 \text{ tons/yr.}$$

$$\text{Potential Emissions of PM} = \text{Max. Throughput} * \text{Emission factor}$$

$$= (1.0 \text{ tons/hr}) * (0.65 \text{ lb/ton})$$

$$= 0.65 \text{ lbs/hr}$$

$$= (0.65 \text{ lbs/hr}) * (1/2,000 \text{ ton/lb}) * (8,760 \text{ hr/yr})$$

$$= 2.84 \text{ tons/yr.}$$

The emissions factor from the AIRS based on SCC = 0.54 lb. of PM10 / ton of sand handled

$$\begin{aligned}\text{Potential Emissions of PM10} &= \text{Max. Throughput} * \text{Emission factor} \\ &= (1.0 \text{ tons/hr}) * (0.54 \text{ lb/ton}) \\ &= 0.54 \text{ lbs/hr} \\ &= (0.54 \text{ lbs/hr}) * (1/2,000 \text{ ton/lb}) * (8,760 \text{ hr/yr}) \\ &= 2.37 \text{ tons/yr}\end{aligned}$$

Allowable Emissions of PM:

The allowable emissions from rule 326 IAC 6-3-2.

$E = 4.10 (P)^{0.67}$ where P is the process weight rate of sand in tons/hr.

$$E = 4.10 (1.0)^{0.67}$$

$$E = 4.1 \text{ lb/hr}$$

$$= (4.1 \text{ lb/hr}) * (8,760 \text{ hr/yr}) * (1 \text{ ton} / 2,000 \text{ lb})$$

$$= 17.96 \text{ tons/yr}$$

Since the PM potential emissions are less than the allowable emissions, the potential emissions should be considered for the permitting purpose.

Controlled Emissions:

The sand reclaiming process operations are controlled by the dust collectors of 95.0 % control efficiency.

$$E = \text{Emissions before control} * (100 - \% \text{ control efficiency}) / 100$$

$$= (2.84 \text{ tons/yr}) * (100 - 95.0) / 100$$

$$= (2.84 \text{ tons/yr}) * 0.05$$

$$= 0.14 \text{ tons/yr}$$

Since the emissions of particulate matter after the controls are less than the allowable emissions, the sand reclamation process is in compliance with the rule 326 IAC 6-3-2.

Actual emissions:

Actual emissions of PM are based on the actual hour of operations.

$$\begin{aligned}\text{Actual emissions (PM)} &= \frac{\text{Emissions after controls} * \text{Actual hrs}}{8,760 \text{ hrs}} \\ &= (0.14 \text{ tons/yr}) * (6,00 \text{ hrs} / 8,760 \text{ hrs of operation}) \\ &= 0.0096 \text{ tons/yr.}\end{aligned}$$

VOC emissions from the sand handling process:

The calciner destruction efficiency is 99.0 %

Potential emissions:

$$\begin{aligned}\text{Emissions in tons/yr} &= \text{Material usage} * \text{Weight \% resin volatilized} * \\ &\quad (100 - \text{calciner destruction efficiency}) / 100 \\ &= (8,760 \text{ tons/yr}) * (0.12 - 0.5) * (100 - 99) / 100 \\ &= 0.61 \text{ tons/yr}\end{aligned}$$

HAP emissions:

The specific concentration and the composition of the resins in the spent sand processed at Precision is unknown and expected to vary greatly. Therefore, a study by Gary E. Mosher was used to estimate the HAP emissions from the sand reclamation processes. From “Calculating Emission Factors for pouring, cooling and shake out”, Gary E. Mosher, American Foundry man’s Society, Modern Casting, Oct.1994.

Sand with a 0.25 % phenol content (by weight) emits the following concentrations when heated.

A destruction efficiency of 99.0% was also assigned to these HAP emissions.

$$\text{Emissions} = \text{Material usage} * (\text{emission factor}) * (1 - \text{calciner destruction efficiency})$$

HAP's	Emission factor (lb/ton)	Emissions in (tons/yr)
Formaldehyde	0.01	0.0004
O-Xylene	0.01	0.0004
M- Xylene	0.05	0.002
Phenol	0.19	0.008
Toluene	0.22	0.010
Acrolein	0.01	0.0004
Naphthalene	0.01	0.0004
Benzene	0.52	0.023
Hydrogen Cyanide (HCN)	0.84	0.037
Total		0.081

Emissions from Combustion Process:

The combustion emissions are from the gas fired, space heater and the oxidation of VOC in the calciner. The emissions are listed as follows. For detailed calculations, see attached spread sheet.

Potential Emissions:

See attached spreadsheet for detail calculations.

PM = 0.2 tons/yr.
PM10 = 0.2 tons/yr
SO2 = 0.0 tons/yr.
CO = 0.3 tons/yr.
VOC = 0.1 tons/yr
NOx = 1.5 tons/yr.

Emissions summary:

Emissions	PM (tons/yr)	PM10 (tons/yr)	SO2 (tons/yr)	NOx (tons/yr)	CO (tons/yr)	VOC (tons/yr)
Potential	443.75	42.14	0.0	1.5	0.3	0.71
Controlled	4.61	0.25	0.0	1.5	0.3	0.71
Allowable	74.98	74.98	0.0	1.5	0.3	0.71
Actual	0.54	0.54	0.0	1.5	0.3	0.71
Previously permitted	40.53	40.53	0.0	1.5	0.3	0.71
Emissions including this modification						